

S7 operation update

Eric Dufresne, TRR group meeting, December 20, 2005

- The October 2005 routine radiation survey revealed several new radiation leaks, one on the roof of 7ID-A, one near the door of 7ID-A. These were repaired in late October by Technit and a new 7ID-A labyrinth was installed as one of the repairs. The repairs were successful.
- When one sticks a radiation monitor inside the beam pipe between 7ID-C and D with the 7ID-C gate closed, one measures a significant radiation leak. Some shielding will be added around the pipe on the 7ID-C side to remedy this problem in the Jan. shutdown.
- One of the cryogenic lines borrowed from S1 had a leaky vacuum jacket this run. We received the new cryogenic lines, and we will install them in the January shutdown.
- The 7ID-A monochromator still had intermittent energy scanning problems during the ANL-AMO experiments. Fortunately, the repair of the Bragg angle encoder performed by BA, HG and ED worked well and the actual monochromator energy was derived from the encoder readout.
- ED presented his results of tilted ID beams at the Dec. 15 TWG meeting. The talk is available on the TWG web site: (FYI, the beam is tilted by 7 degrees in 7ID-C and D)

http://www.aps.anl.gov/About/Committees/InterCAT_Technical_Workgroup/2005/index.html

7ID Update and shutdown activities(p2).

- The >5 weeks of laser experiments in the fall run went well with new enclosure set up.
- The 7ID-D Huber needs a new gear reducer for the Phi motor, and we need to get a new pair of motorized slits so that the Huber detector arm is not shared between the Kappa and the Huber.
- The new AMO motorized table design is complete and awaiting capital funding. During (likely before) the AMO experiment, the small motorized table stopped working reliably. It needs to be repaired before it can be used again since it moves by an inch if you blow on it!
- Phil Coppens' lab new hybrid singlet chopper was tested in December in 7ID-C and seems to be working well when used with a small 0.1 mm slit. We are thinking of procuring one for 7ID.
- The 7ID-E laser enclosure needs a major cabling effort during the January shutdown that will result in several patch panels to connect to other control areas.
- The new Wrightline desk will be connected to clean power so that the control stations for 7ID-C and D can be moved to this new office partition.
- Inside of 7ID-C, Scheck will relocate some clean power outlets (#18, #20) from pressure-held Unistrut mounts to the new welded Unistrut bars.

7ID update and shutdown activities (p3)

- DW is designing a new Be window mount for the 7ID-C X-ray BPM that will enable continuous vacuum operation down to 7ID-D. He has also procured two sets of JJ X-ray slits that will be used as 7ID-C and 7ID-D hutch slits.
- The new monochromator Heidenhain decoder has been mounted on the outside/upstream wall of 7ID-B. AC outlets were added on this wall to connect the device and some electrical safety problems were fixed in the grey cabinets outside of 7ID-B.
- A new IOC was procured for 7ID-E. In the future, all the timing signals module will be centralized on this IOC and fanned out to other hutches.
- An ASD LDRD for studies of transient RF deflection with the kicker has been funded. The ASD group will be able to provide S7 with a trigger signal for the kicker. Once the signal is available, we can set up studies of this new tilted bunch mode.
- EL will try to improve the laser pointing stability and get rid of the 1h30 am “gremlin”. (See next figure) He plans to set up active stabilization, and add an exhaust fan to the laser enclosure.

The AC “gremlin” monitored by the OAG server.

